Claims

1. A magnetic resonance imager comprising:

a control unit that controls a pulse sequence according to which a radiofrequency magnetic field and magnetic field gradients are applied to a living body lying down in a static magnetic field in order to detect a magnetic resonance signal induced in the living body; and

a processing unit that handles the signal, wherein:

the control unit (1) controls the pulse sequence to be applied for performing radial scanning, (2) acquires image echoes by applying the pulse sequence a plurality of times, and (3) acquires reference echoes, each of which lies among image echoes in a k-space, by applying the pulse sequence a plurality of times; and

the processing unit (1) divides the image echoes and reference echoes into a plurality of groups, (2) uses the reference echo and image echoes preceding and succeeding the reference echo to calculate an estimation coefficient, and (3) uses the estimation coefficient to estimate unmeasured echoes lying among the image echoes in the k-space.

2. The magnetic resonance imager according to Claim 1, wherein the reference echo is measured so that one reference echo will be included in the middle of each of the plurality

of groups.

3. The magnetic resonance imager according to Claim 1, wherein the processing unit divides each of the image echoes and reference echoes into a plurality of parts.

4. The magnetic resonance imager according to Claim 3, wherein the number of parts into which each echo is divided is about seven.

5. The magnetic resonance imager according to Claim 1, wherein the number of reference echoes is about eight.

6. An examination system utilizing nuclear magnetic resonance and comprising a control unit that controls a pulse sequence, according to which a radiofrequency magnetic field and magnetic field gradients are applied to a subject lying down in a static magnetic field in order to detect a nuclear magnetic resonance signal induced in the subject, wherein:

the control unit (1) detects the nuclear magnetic resonance signal by radially scanning a k-space, (2) produces a plurality of images, (3) employs a sliding window, and (4) scans the k-space at intervals of n echoes and uses a temporal filter to suppress artifacts.

7. The examination system according to Claim 6, wherein when (3) employing the sliding window, the control unit determines an n value representing the number of echoes, n, at intervals of which the k-space is scanned so that the frequencies of artifacts will be controlled to get close to a Nyquist rate.

8. The examination system according to Claim 6, wherein when (1) detecting the nuclear magnetic resonance signal and (2) producing a plurality of images, the control unit thins scanning lines, changes the way of thinning scanning lines among images, and thus scans the k-space so that artifacts will be cyclically varied.